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Experimental High Resolution Seasonal Climate and Hydrologic Prediction and Predictability Studies of the Pan-American and South American Monsoons from Intra-Seasonal to Seasonal Scales

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REPORT FIGURES

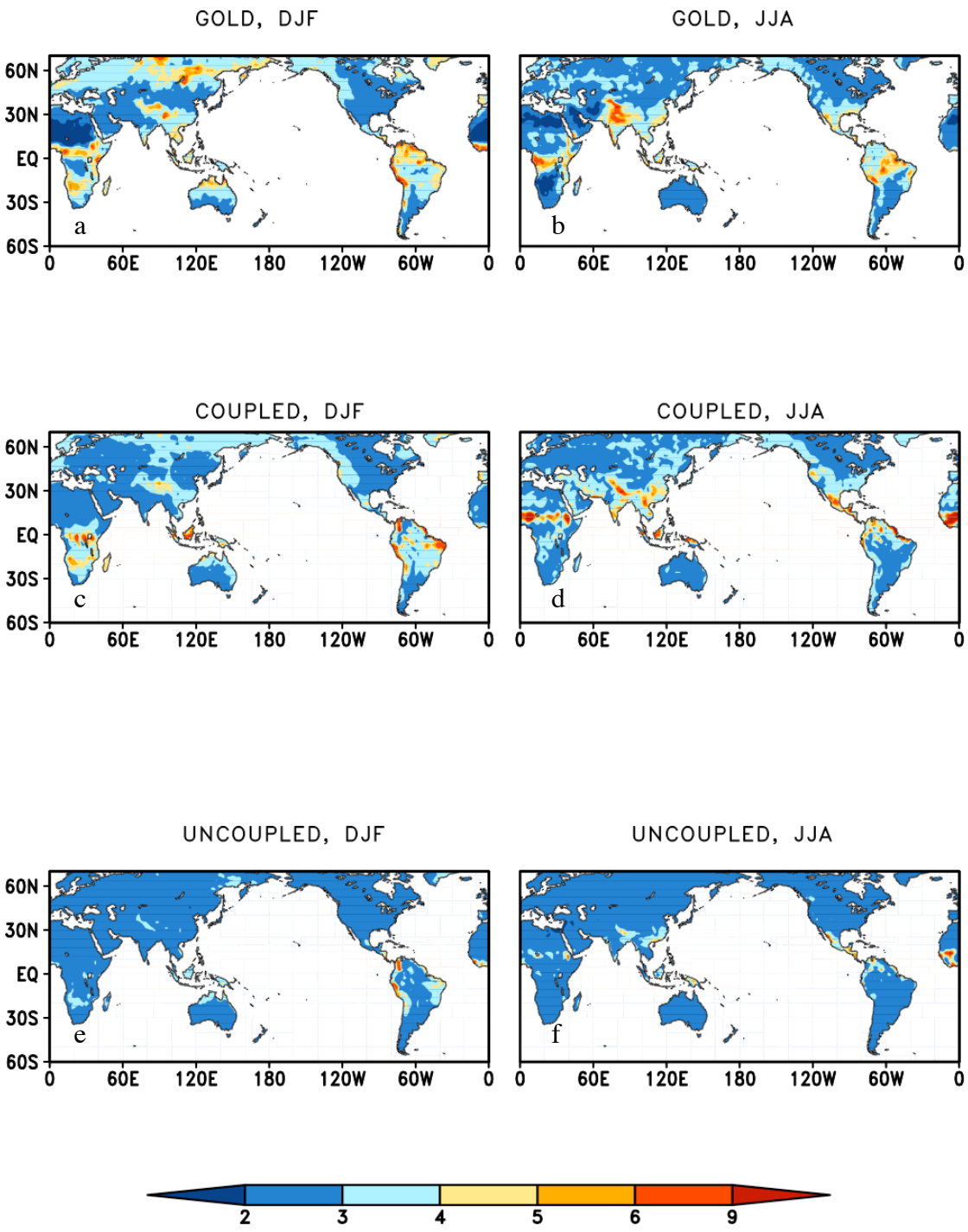

Figure 1: Decorrelation time of daily precipitation in boreal winter from a) GOLD (global offline land data assimilation), c) COUPLED, e) UNCOUPLED and in boreal summer from b) GOLD, d) COUPLED and f) UNCOUPLED simulations. The units are in days.

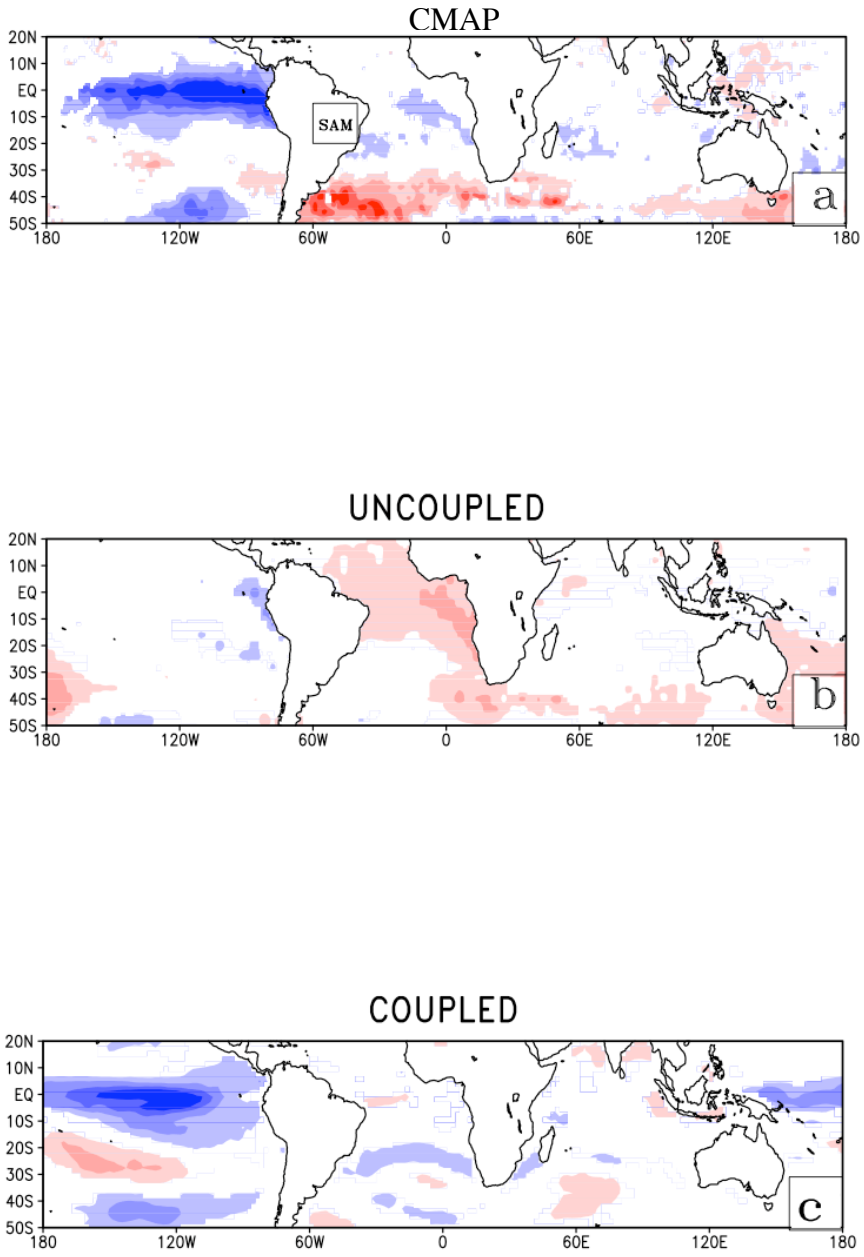

Figure 2: The regression of the mean DJF SST on precipitation averaged over the core of the South American Monsoon (SAM domain outlined in a) from a) CMAP, b) UNCOUPLED and c) COUPLED integration. The SST in a) and b) is from HADISST while in c) it is from the COUPLED integration. Only significant values at 90% confidence interval according to t-test are plotted. The units are in ^{0}C.

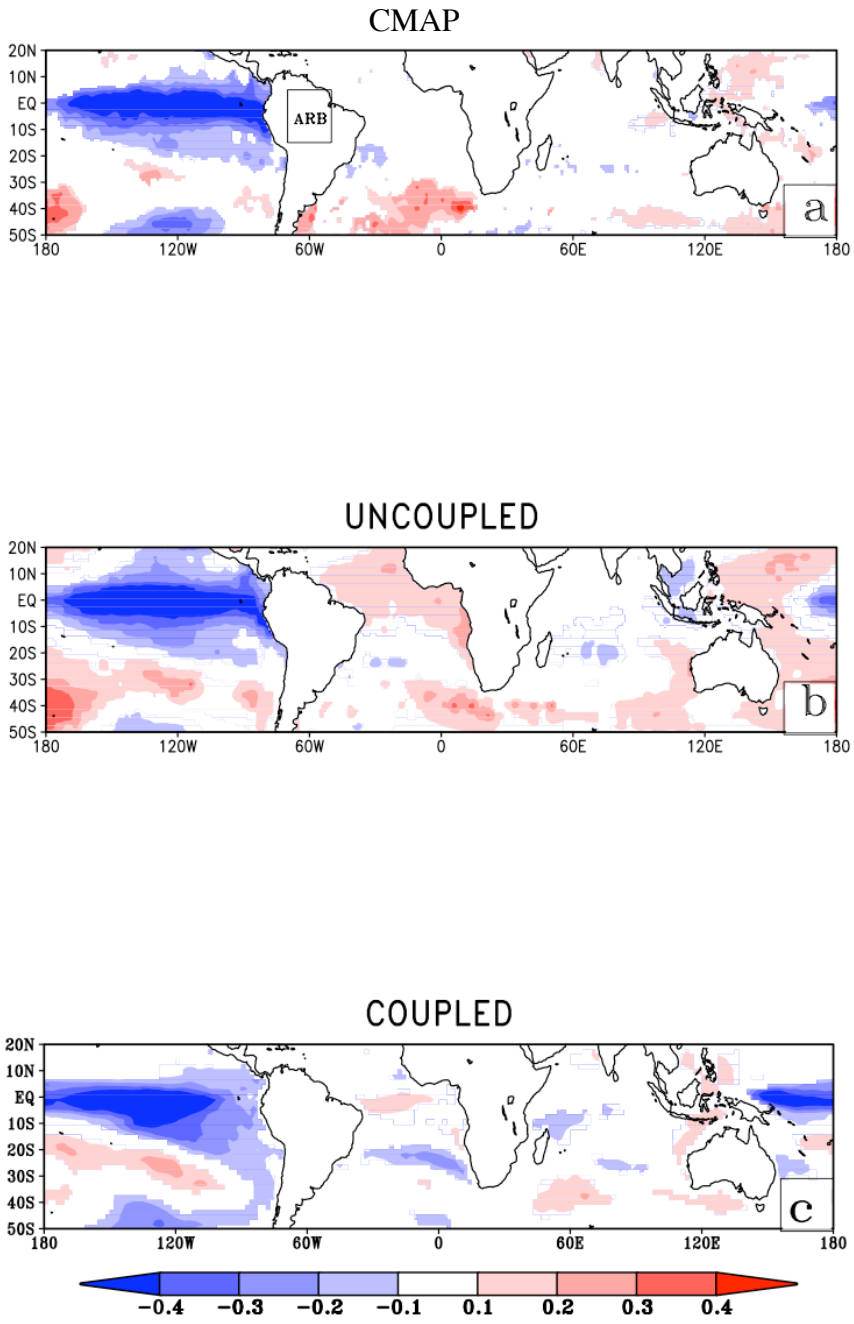

Figure 3: The regression of the mean DJF SST on precipitation averaged over the Amazon River Basin (ARB domain outlined in a) from a) CMAP, b) UNCOUPLED and c) COUPLED integration. The SST in a) and b) is from HADISST while in c) it is from the COUPLED integration. Only significant values at 90% confidence interval according to t-test are plotted. The units are in ^{0}C.

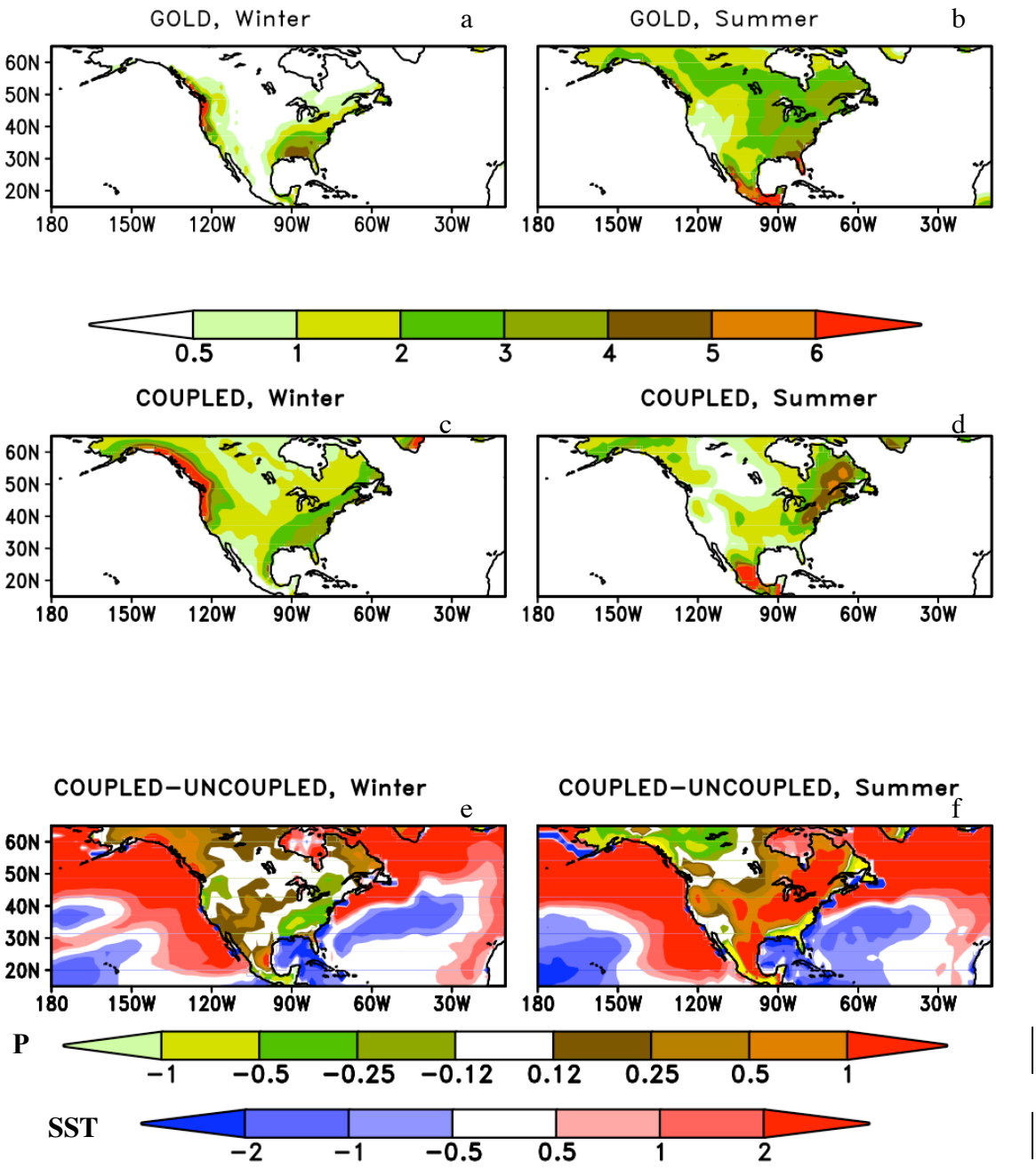

Figure 4: Climatological a) DJF and b) JJA precipitation from CMAP. Similarly, climatological c) DJF and b) JJA precipitation from the COUPLED simulation. Climatological differences of precipitation (over land) and SST (over ocean) COUPLED and UNCOUPLED simulations in e) DJF and f) JJA seasons. The units of precipitation are in mmday^{-1}. Separate contour intervals for SST and precipitation are indicated for Figs. 1e and f.

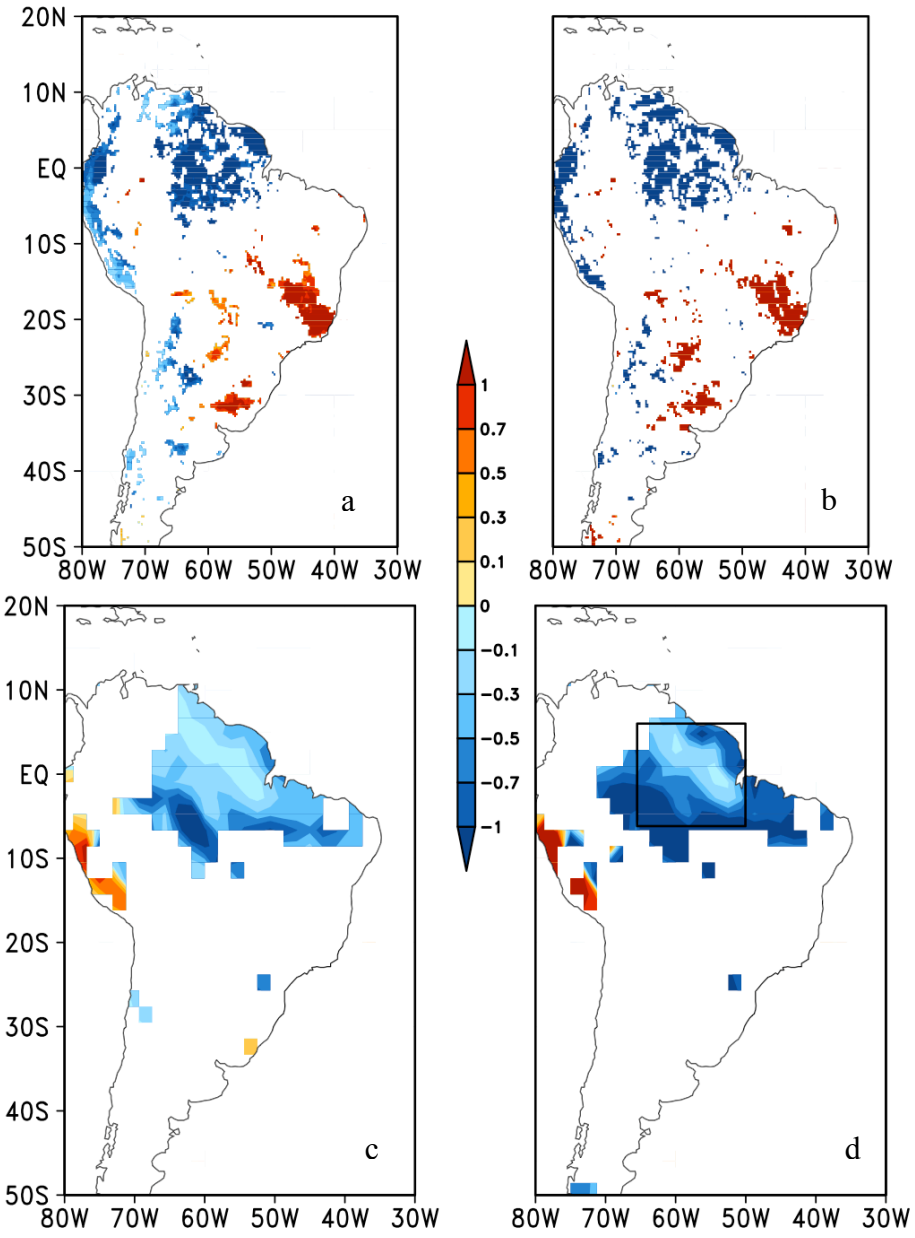

Figure 5: The contemporaneous regression of the December-January-February seasonal mean precipitation from a) TRMM and b) MODEL on the normalized Nino3 SST index from a) HADISST and b) MODEL SST. Similarly, the contemporaneous regression of the December-January-February seasonal mean daily diurnal precipitation range from c) TRMM and d) MODEL on the normalized Nino3 SST index from c) HADISST and d) MODEL SST. The units are in mm day^{-1}. The outlined box in d) is the reference box for northern tropical South America (NTSA) used in the analysis of this study. Only significant values at 90% confidence interval according to t-test are plotted.